

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of claims:

- 1-31. (Cancelled)
32. (New) A method of delivering a composition to a lignocellulosic substrate, the method comprising at least the steps of:
- a. heating a target zone of the substrate using radio frequency energy or microwave energy, and
 - b. applying a composition to a surface of the substrate comprising or immediately adjacent to the target zone;
- wherein the lignocellulosic substrate is kiln dried and the composition is at a temperature below that of the target zone of the substrate.
33. (New) A method as claimed in claim 32, wherein the substrate is high temperature kiln dried.
34. (New) A method as claimed in claim 32, wherein the substrate has an initial moisture content of substantially 15% or below.
35. (New) A method as claimed in claim 32, wherein the substrate is lumber.
36. (New) A method as claimed in claim 32, wherein the frequency of the radio frequency energy is substantially 100MHz or below.
37. (New) A method as claimed in claim 36 wherein the frequency of the radio frequency energy is from substantially 27 MHz to substantially 40MHz.

38. (New) A method as claimed in claim 32, wherein the target zone of the substrate is heated to a temperature such that there is a temperature differential of at least approximately 80 degrees Celsius between the target zone and the composition at the time of application.

39. (New) A method as claimed in claim 38, wherein the temperature differential is at least approximately 100 degrees Celsius.

40. (New) A method as claimed in claim 32, wherein the composition is applied at ambient temperature.

41. (New) A method as claimed in claim 32, wherein the target zone comprises a volume of the substrate including an area of the surface of the substrate to a depth of between substantially 0.1 cm and substantially 4 cm.

42. (New) A method as claimed in claim 32, wherein the target zone of the substrate is heated and held at an elevated temperature for a period of time prior to application of the composition.

43. (New) A method as claimed in claim 42, wherein the substrate is held at an elevated temperature for a period of time sufficient to heat substantially the whole target zone to a substantially uniform temperature.

44. (New) A method as claimed in claim 42, wherein the period is a time sufficient to sterilise at least the target zone of the substrate.

45. (New) A method as claimed in claim 32, wherein the method further comprises the step of controlling loss of moisture from the target zone of the substrate during step a. or during any period prior to step b. within which the target zone of the substrate is held at an elevated temperature.

46. (New) A method as claimed in claim 32, wherein the composition is a biocidal composition, is a composition that imparts properties of higher density or strength to at least a target zone of the substrate, or a waterproofing composition.

47. (New) A method as claimed in claim 46, wherein the composition is of a polymeric or pre-polymeric nature.

48. (New) A method as claimed in claim 32, wherein the composition is an aqueous solution.

49. (New) A method as claimed in claim 32, wherein the composition is applied to the substrate by one or more of dipping, deluging, spraying, or brushing.

50. (New) A method of delivering a composition to a lignocellulosic substrate the method comprising at least the steps of:

a. heating a target zone of the substrate using radio frequency energy or microwave energy, and

b. applying a composition to a surface of the substrate comprising or immediately adjacent to the target zone;

wherein the lignocellulosic substrate has an initial moisture content of less than or equal to substantially 15% as a weight proportion of dry weight and the composition is at a temperature below that of the target zone of the substrate.

51. (New) A method as claimed in claim 50, wherein the substrate is lumber.

52. (New) A method as claimed in claim 50, wherein the frequency of the radio frequency energy is substantially 100MHz or below.

53. (New) A method as claimed in claim 52, wherein the frequency of the radio frequency energy is from substantially 27 MHz to substantially 40MHz.

54. (New) A method as claimed in claim 50, wherein the target zone of the substrate is heated to a temperature such that there is a temperature differential of at least approximately 80 degrees Celsius between the target zone and the composition at the time of application.

55. (New) A method as claimed in claim 54, wherein the temperature differential is at least approximately 100 degrees Celsius.

56. (New) A method as claimed in claim 50, wherein the composition is applied at ambient temperature.

57. (New) A method as claimed in claim 50, wherein the target zone comprises a volume of the substrate including an area of the surface of the substrate to a depth of between substantially 0.1 cm and substantially 4 cm.

58. (New) A method as claimed in claim 50, wherein the target zone of the substrate is heated and held at an elevated temperature for a period of time prior to application of the composition.

59. (New) A method as claimed in claim 58, wherein the substrate is held at an elevated temperature for a period of time sufficient to heat substantially the whole target zone to a substantially uniform temperature.

60. (New) A method as claimed in claim 58, wherein the period is a time sufficient to sterilize at least the target zone of the substrate.

61. (New) A method as claimed in claim 50, wherein the method further comprises the step of controlling loss of moisture from the target zone of the substrate during step a. or during any period prior to step b. within which the target zone of the substrate is held at an elevated temperature.

62. (New) A method as claimed in claim 50, wherein the composition is a biocidal composition, a composition that imparts properties of higher density or strength to at least a target zone of the substrate, or a waterproofing composition.

63. (New) A method as claimed in claim 62, wherein the composition is of a polymeric or pre-polymeric nature.

64. (New) A method as claimed in claim 50, wherein the composition is an aqueous solution.

65. (New) A method as claimed in claim 50, wherein the composition is applied to the substrate by one or more of dipping, deluging, spraying, or brushing.

66. (New) A method of delivering a composition to a lignocellulosic substrate, the method comprising at least the steps of:

a. heating a target zone of the lignocellulosic substrate under conditions which control the loss of moisture from the substrate, optionally holding the target zone at an elevated temperature for a period of time, and

b. applying a composition to a surface of the substrate comprising or immediately adjacent to the target zone;

wherein the substrate is green lumber and the composition is at a temperature below that of the target zone of the substrate.

67. (New) A method as claimed in claim 66, wherein the substrate has an initial moisture content of substantially 80% of its dry weight.

68. (New) A method as claimed in claim 66, wherein the substrate has an initial moisture content of substantially 150% of its dry weight.

69. (New) A method as claimed in claim 66, wherein the target zone is held at an elevated temperature for a period of time prior to application of the composition.

70. (New) A method as claimed in claim 69, wherein the substrate is held at an elevated temperature for a period of time sufficient to heat substantially the whole target zone to a substantially uniform temperature.

71. (New) A method as claimed in claim 66, wherein the substrate is held at elevated temperature for a period of time sufficient to sterilize at least the target zone of the substrate.

72. (New) A method as claimed in claim 66, wherein moisture loss is controlled by manipulating one or more of the following conditions during step a.:

Pressure conditions;

Humidity conditions; and

Temperature conditions.

73. (New) A method as claimed in claim 72, wherein moisture loss is controlled by heating the substrate in the presence of a fluid medium of high humidity or by heating the substrate in the presence of a fluid medium above atmospheric pressure.

74. (New) A method as claimed in claim 72, wherein the substrate is heated using a first fluid medium and held at a desired temperature using a second fluid medium.

75. (New) A method as claimed in claim 73, wherein the fluid medium is hot air, hot water, steam, saturated steam, or high pressure steam.

76. (New) A method as claimed in claim 66, wherein the target zone comprises a volume of the substrate including an area of a surface of the substrate to a depth of between substantially 0.1 cm and substantially 4 cm.

77. (New) A method as claimed in claim 66, wherein the target zone of the substrate is heated to a temperature such that there is a temperature differential of at least approximately 80 degrees Celsius between the target zone and the composition at the time of application.

78. (New) A method as claimed in claim 77, wherein the temperature differential is at least approximately 100 degrees Celsius.

79. (New) A method as claimed in claim 66, wherein the composition is applied at ambient temperature.

80. (New) A method as claimed in claim 66, wherein application of the composition occurs under vacuum or positive pressure conditions.

81. (New) A method as claimed in claim 66, wherein the substrate is heated using radio frequency energy or microwave energy.

82. (New) A method as claimed in claim 66, wherein the composition is a biocidal composition, a composition that imparts properties of higher density or strength to at least a target zone of the substrate, or a waterproofing composition.

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83. (New) A method as claimed in claim 82, wherein the composition is of a polymeric or pre-polymeric nature.

84. (New) A method as claimed in claim 66, wherein the composition is an aqueous solution.

85. (New) A method as claimed in claim 66, wherein the composition is applied to the substrate by one or more of dipping, deluging, spraying, or brushing.